

REMARKS

Applicants amend claims 1, 23, 29, and add new claim 30, as indicated above. As discussed in more detail below, support for the amendments can be found throughout the specification, e.g., pages 75-79.

In response to Examiner's request that Applicants point out support for the recitation "network device" in the claims, Applicants note that the title of the invention ("Policy-based Provisioning of Network Device Resources") indicates that the application is generally directed to provisioning of resources of a network device. The application is replete with other references to network device, for example, on page 69 at the first line of the first paragraph under the heading "Data Plane."

Rejections Under 35 U.S.C. 102(e)

The Office Action rejects claims 1-29 as being anticipated by U.S. Patent No. 6,789,118 of Rao.

Claim 1, as amended, recites a method of establishing a path for data transmissions in a network device having a plurality of *port cards*, a plurality of *forwarding cards* and a *cross-connection card* for providing a plurality of possible paths between the port cards and the forwarding cards. The method calls for defining a *configuration policy* designating internal connection paths within the device between the port cards and the forwarding cards, and utilizing the configuration policy to configure the cross-connection card for establishing internal connection paths between the port cards and the forwarding cards for transmitting packetized payload data therebetween.

Rao is generally directed to a multi-service network switch that includes a plurality of forwarding modules (FM) having physical ports (each referred to as a personality module or PM) for receiving call requests. A connection manager detects an incoming call in one of the physical ports of an FM (receiving FM) and notifies the FM's resource manager of the incoming call. The resource manager searches a call policy database for a policy corresponding to the call and broadcasts a resource request message to the other FMs. If any of the FMs has an available

resource that matches the call's requirements, it transmits a response to the receiving FM for connecting the call to the available resource.

Rao's switch does not include a *cross-connection system* for establishing internal connections between a plurality of physical ports and a plurality of forwarding cards based on a *configuration policy*. In fact, each physical port (personality module) in Rao is associated with only one of the FMs. Rao does not teach a cross-connection switch that could connect such a personality module to another FM (an FM other than the one with which it is associated). The Examiner identifies Rao's FMs as cross-connection cards. However, a cross-connection card as recited in claim 1 functions as a switch to decouple port cards from forwarding subsystems in order to provide *enhanced flexibility for routing packets*. In contrast, each PM in Rao is coupled to one of the FMs and can only transmit the data it receives to that FM's forwarding interface. In other words, Rao does not provide any provision for decoupling the PMs from the forwarding subsystems of their associated FMs such that each PM would be able to send its received packets to another FM's forwarding subsystem based on a pre-defined policy.

Accordingly, Rao's switch does not provide the advantages of the claimed method. For example, in the claimed method, if the resources of a particular forwarding subsystem are under stress, e.g., due to heavy traffic, or simply not available, the configuration policy of the present invention can instruct the cross-connection switch to decouple one or more physical ports designated to send data packets to that forwarding subsystem therefrom and to couple these ports to another forwarding system having available resources for processing the packets.

Hence, claim 1, claims 2-22, and claims 26-28, which depend either directly or indirectly on claim 1, distinguish patentably over Rao.

Independent claim 23 is amended to incorporate the features of claim 25, which is hence canceled. Accordingly, support for amendments to claim 23 can be found in claim 25 as well as at pages 69-72, FIGURE 35, pages 75-79 and throughout the remainder of the specification.

Amended claim 23 recites a computer network device having a *cross-connection card* comprising a *plurality of programmable paths* internal to the device, and a plurality of

forwarding cards including a plurality of ports coupled to the cross-connection card. The device further includes a plurality of physical cards including a plurality of ports coupled to the cross-connection card, a configuration policy file stored within the computer device, and a policy provisioning manager for programming the plurality of programmable paths using the configuration policy file. The plurality of the programmable paths connect ports of the forwarding cards with particular ports of the physical cards through the cross-connection card.

The arguments presented above apply with equal force to establish that claim 23 is also patentable over Rao. In particular, as discussed in detail above, Rao fails to teach a cross-connection card that can be programmed based on a configuration policy to provide *a plurality of programmable paths* for connecting ports of a plurality of physical cards to those of a plurality of forwarding cards.

Thus, claim 23 and claim 24 dependent thereon are patentable.

Independent claim 29, as amended, recites a method for establishing a path between a *physical port* of a network device, adapted for receiving data from an external device, and at least one of a plurality of *forwarding systems* of the device, adapted for processing the received data, via a *cross-connection switch* that can selectively couple the port to forwarding systems. The method calls for defining a *configuration policy* for designating the port to at least one of the forwarding systems, and utilizing the configuration policy *to establish an internal connection path* between the port and the forwarding system designated to the port through the cross-connection switch.

Similar to the previous claims, claim 29 also distinguishes over Rao as it includes a cross-connection switch through which an internal connection path can be established between a port card and one of a plurality of forwarding cards based on a configuration policy – features not taught by Rao as discussed above.

New Claim

The new method claim 29 depends on claim 1, and further recites that the configuration policy causes the cross-connection card to establish the internal connection path *regardless of information contained in the payload*. Support for this claim can be found on page 75 of the application in the first paragraph under the heading “Policy Based Provisioning.”

As discussed above, Rao does not teach programming a cross-connection card to establish paths between a plurality of port cards and forwarding cards based on a configuration policy to transmit data payloads therebetween, much less establishing such paths regardless of the information contained in the payload

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request reconsideration and allowance of the application. Applicants invite the Examiner to call the undersigned if there are any remaining issues.

Dated: May 12, 2005

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